

OPTICAL COMPONENT BASED TEMPERATURE MEASUREMENT IN ANALYTE
DETECTION DEVICES

ABSTRACT OF THE DISCLOSURE

Reflectance based methods and devices are provided for determining the
5 concentration of an analyte in a fluid sample. In practicing the subject methods, a fluid
sample is applied to a matrix impregnated with a signal producing system. The signal
producing system produces a detectable product in an amount proportional to the amount of
analyte in the sample. A surface of the matrix is then illuminated and a reflectance
measurement is obtained therefrom, generally following a predetermined incubation period.
10 An optical component, preferably the illumination or light detection means, is also employed
to obtain a temperature value corresponding to the ambient temperature of the matrix. The
analyte concentration of the sample is then obtained from the reflectance measurement using
an algorithm that employs the optical component derived temperature value. The subject
methods and devices are suited for use in the detection of a variety of different types of fluid
15 analytes, and are particularly suited for use in detecting the concentration of glucose in
whole blood.

Fig. 2



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